What is claimed is:

1   1.   A method comprising:

2   inserting a vector in a packet that identifies a first

3   device in a stack of packet forwarding devices that delivers

4   the packet to an exception processor being shared by the

5   packet forwarding devices in the stack.

1   2.   The method of claim 1 further comprising:

2   inserting a flag in the packet that indicates the packet

3   is associated with an exception.

1   3.   The method of claim 1 further comprising:

2   using the vector and a table to determine a port for

3   sending the packet to the first device in the stack of packet

4   forwarding devices.

1   4.   The method of claim 1 wherein the vector includes a bit

2   identifying the first device in the stack of packet forwarding

3   devices.

1   5.   The method of claim 1 further comprising:

2   removing the vector from the packet for delivering the

3   packet to the exception processor shared by the packet

4   forwarding devices in the stack.

1   6.   The method of claim 1 wherein the packet is delivered

2   over a transmission line in an aggregate of transmission lines

3   to the exception processor shared by the packet forwarding

4   devices in the stack.

1   7.   The method of claim 1 wherein the vector includes bits

2   respectively identifying the packet forwarding devices in the

3   stack.

1   8. A computer program product, tangibly embodied in an

2   information carrier, the computer program product being

3   operable to cause a machine to:

4   insert a vector in a packet that identifies a first

5   device in a stack of packet forwarding devices that

6   delivers the packet to an exception processor being

7   shared by the packet forwarding devices in the stack.

1   9. The computer program product of claim 8 being further

2   operable to cause a machine to:

3   insert a flag in the packet that indicates the

4   packet is associated with an exception.

1   10. The computer program product of claim 8 being further

2   operable to cause a machine to:

3   use the vector and a table to determine a port for

4   sending the packet to the first device in the stack of

5   packet forwarding devices.

1 11. The computer program product of claim 8 wherein the

2 vector includes a bit identifying the first device in the

3 stack of packet forwarding devices.

1 12. A computer program product of claim 8 being further

2 operable to cause a machine to:

3   remove the vector from the packet for delivering the

4   packet to the exception processor shared by the packet

5   forwarding devices in the stack.

1 13. The computer program product of claim 8 wherein the

2 packet is delivered over a transmission line in an aggregate

3 of transmission lines to the exception processor shared by the

4 packet forwarding devices in the stack.

1 14. The computer program product of claim 8 wherein the

2 vector includes bits respectively identifying the packet

3 forwarding devices in the stack.

1 15. A packet forwarder comprises:

2   a process to insert a vector in a packet that

3   identifies a first device in a stack of packet forwarding

4   devices that delivers the packet to an exception

- 33 -

5   processor being shared by the packet forwarding devices

6   in the stack.

1   16. The packet forwarder of claim 15 further comprising:

2   a process to insert a flag in the packet that

3   indicates the packet is associated with an exception.

1   17. The packet forwarder of claim 15 further comprising:

2   a process to use the vector and a table to determine

3   a port for sending the packet to the first device in the

4   stack of packet forwarding devices.

1   18. A system comprising:

2   a switch device capable of,

3   inserting a vector in a packet that identifies

4   a first device in a stack of packet forwarding

5   devices that delivers the packet to an exception

6   processor being shared by the packet forwarding

7   devices in the stack.

1   19. The system of claim 18 wherein the switch device is

2   further capable of:

3   inserting a flag in the packet that indicates the

4   packet is associated with an exception.

1   20. The system of claim 18 wherein the switch device is

2   further capable of:

3   using the vector and a table to determine a port for

4   sending the packet to the first device in the stack of

5   packet forwarding devices.

1   21. A packet forwarding device comprising:

2   an input port for receiving a packet;

3   an output port for delivering the received packet;

4   and

5   a switch device capable of,

6   inserting a vector in a packet that identifies

7   a first device in a stack of packet forwarding

8   devices that delivers the packet to an exception

9   processor being shared by the packet forwarding

10   devices in the stack.

1   22. The packet forwarding device of claim 21 wherein the

2   switch device is further capable of:

3   inserting a flag in the packet that indicates the

4   packet is associated with an exception.

1   23. The packet forwarding device of claim 21 wherein the

2   switch device is further capable of:

3   using the vector and a table to determine a port for

4   sending the packet to the first device in the stack of

5   packet forwarding devices.

1   24.   A router comprising:

2   a switch device capable of inserting a device vector

3   in a packet that identifies a first device in a stack of

4   packet forwarding devices that delivers the packet to an

5   exception handler being shared by the packet forwarding

6   devices in the stack.

1   25.   The router of claim 24 wherein the switch device is

2   further capable of inserting an exception flag in the packet

3   that indicates the packet is associated with an exception.

1   26.   The network switch of claim 24 wherein the switch device

2   is further capable of using the device vector and an exception

3   routing table to determine a port for sending the packet to

4   the first device in the stack of packet forwarding devices.